

Appln. Serial No. 09/775,238
Amendment Dated July 10, 2007
Reply to Office Action Mailed April 10, 2007

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REMARKS

In the Office Action dated April 10, 2007, claim 14 was objected to; claims 3-7, 9, 10, 12-17, 25, 27, 29-31, and 33 were rejected under 35 U.S.C. § 101; claims 3, 7, 9, 10, 12, 17, and 27 were rejected under § 103 over U.S. Patent No. 6,515,974 (Inoue) in view of U.S. Patent No. 6,535,511 (Rao); and claims 4-6, 13-16, 18-21, 23-25, and 28-33 were rejected under § 103 over U.S. Patent No. 6,608,832 (Forslow) in view of Inoue, U.S. Patent No. 6,636,502 (Lager), and Rao.

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CLAIM OBJECTION

Claim 14 has been amended to address the objection.

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REJECTION UNDER 35 U.S.C. § 101

Independent method claims 3, 4, and 5 (and certain dependent claims) were rejected as not being directed to statutory subject matter. The Office Action stated that these claims do not provide a practical application since "the claims never require that the software be executed by a computer." 4/10/2007 Office Action at 3.

To address this rejection, independent method claims 3 and 4 have been amended to recite that the tasks of the method claims are performed by one or more processing elements. Support for this amendment can be found on page 14, lines 15-21, of the Specification. Claim 5 has been amended to recite that the tasks of the method claim are performed by a network address translator executed on one or more microprocessors. Consequently, it is respectfully submitted that the claimed subject matter covers a practical application.

With respect to independent claims 10 and 25, the Office Action stated that the claims are not directed to statutory subject matter since the claims do not conform to the following format: "computer-readable medium encoded with a data structure for ..."

The preambles of each of independent claims 10 and 25 have been amended to recite "an article comprising at least one *machine-readable* storage medium *encoded with* instructions that when executed cause a system" to perform the recited tasks. The addition of "machine-readable" satisfies the requirement that software be encoded in a tangible storage medium, and the term "containing" has been replaced with "encoded with" to follow the language suggested by the Office Action. Note that the amendments of claims 10 and 25 do not affect the scope of the claims, since implicitly the "storage medium" recited previously is a machine-readable storage medium, and the fact that a storage medium contains instructions implies that the storage medium is encoded with instructions.

In view of the foregoing, withdrawal of the § 101 rejection is respectfully requested.

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REJECTION UNDER 35 U.S.C. § 103

Independent Claims 4, 5, 18, 25

Claim 4 was rejected as being obvious over the asserted combination of the following four references: Forslow, Inoue, Lager, and Rao.

It is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 4 over the cited references for at least the following reasons: (1) no reason existed that would have prompted a person of ordinary skill in the art to combine the teachings of the references (*see KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007)); and (2) the hypothetical combination of the references does not teach or hint at all elements of the claim.

As a preliminary note, the Office Action has engaged in a rather tortuous analysis in attempting to piece together elements from four different references to achieve the claimed subject matter. The analysis provided in the Office Action provides a clear indication that impermissible hindsight has been used in making the rejection, in which the disclosure of the present invention has been used to piece together elements from the different references. Without the present invention, a person of ordinary skill in the art clearly would not have been prompted to combine the elements of the references in the manner proposed by the Office Action.

A first point of error made in the Office Action is the incorrect assertion that Forslow discloses the following element of claim 4: receiving a first packet having a payload portion containing a GTP data unit, the first IP packet having a header containing a (private) network address of a first node in a first wireless network, and the GTP data unit in the payload portion of the first IP packet containing the (private) network address of the first node. Leaving aside the issue of "private" network address for the moment, it is noted that the "receiving" element of claim 4 specifies that both the header portion and the payload portion contains the *same* network address of the first node. In the rejection, the Office Action identified an IP packet in Forslow having a header containing a network address of a first node – this header of the IP packet is the IP header that contains *an* IP address. The rejection goes on to further state that the GTP data unit of Forslow contained in the payload portion of the IP packet contains the same network

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address of the first node, citing specifically to column 4, lines 13-24 of Forslow, which refers to "routing information" that has been added to a PDU. This routing information mentioned in the column 4 passage of Forslow is *not* the same network address (*i.e.*, the IP address of the IP header) referred to earlier in the rejection of claim 4. In fact, the column 4 cited passage specifically identifies what this routing information contains: the GTP header contains a tunnel endpoint identifier (TID) and a group identity (GID). Neither of these identifiers constitutes an IP address that is contained in the IP header of the IP packet. Thus, a first critical point of error made by the Office Action is the citation of two different types of identifiers in the IP header and the IP payload portion, which is clearly inconsistent with the language of claim 4.

The remaining obviousness rejection flows from this improper application of the claim language to Forslow, and thus, the obviousness rejection is clearly defective for at least this reason.

A second point of error made in the Office Action is that the secondary references actually would have led a person of ordinary skill in the art *away* from the claimed invention, rather than towards it. One such secondary reference is Inoue, which was cited by the Office Action as disclosing public and private IP addresses. However, Inoue describes conventional address translation in which the source and destination addresses in *only a header* of a packet are translated. *See* Inoue, 9:51-57; 1:32-33. Inoue does not provide any hint of any desirability to embed a private network address into a payload portion of a data packet, or to translate the private network address contained in the payload portion of the data packet. Thus, a person looking to the teachings of Inoue would have been prompted to perform network address translation of *only* the address in the IP packet header, not in the payload portion.

Also, although another secondary reference, Lager, refers to the use of a private IP network for an intra-PLMN backbone network, and a public Internet network for the inter-PLMN backbone network, there is no teaching or hint in Lager of providing a private network address in a GTP data unit and translating the private network address in the GTP data unit. This was a point conceded by the Office Action. *See* 4/10/2007 Office Action at 8. As purportedly disclosing the claimed subject matter missing from Forslow, Inoue, and Lager, the Office Action cited Rao. *Id.* As a motivation for combining Rao with Forslow, Inoue, and Lager, the Office Action cited again to Forslow, column 4, lines 13-24, with the Office Action

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asserting that "the GTP layer and the IP layer will contain network addresses." However, this assertion appears to confuse the issue, as the "routing information" contained in the GTP PDU is the tunnel endpoint identifier and the group identity, not the IP address of the IP header. Thus, a person looking to the teachings of Forslow would not have been prompted to incorporate the IP address in the IP header into the GTP PDU.

Moreover, it is noted that Rao is directed to a traditional wired network environment, and that there is no indication by Rao that its techniques would be desirable in a wireless or mobile environment, which is the environment of Forslow, Inoue, and Lager. Forslow, Inoue, and Lager constitute objective evidence that, in a wireless or mobile network environment, a person of ordinary skill in the art did not recognize providing the same private network address in both the header and payload portion of a data packet, and translating this private network address in each of the header and the payload portion to a public network address. The only basis for the apparent combination of references made in the Office Action is impermissible hindsight, since the objective teachings of the references would indicate that there existed no reason to prompt a person of ordinary skill in the art to combine the references.

In view of the foregoing, it is clear that a *prima facie* case of obviousness has not been established.

A further basis that the obviousness rejection is defective is that the hypothetical combination of the references fails to teach or hint at all elements of the claim. As conceded by the Office Action, Forslow, Inoue, and Lager do not disclose translating the private network address (of a first node in the first *wireless* network) in each of the header and payload portion to a public network address, and sending a second data packet having a header portion and a payload portion that contains the public network address translated from the private network to a second node in the second *wireless* network. 4/10/2007 Office Action at 8. The Office Action cited Rao as disclosing the "translating" and "sending" tasks of claim 4. However, it is noted that Rao is directed to network address translation in a wired network, and thus does not teach or hint at translating the private network address of a first node in the first *wireless* network, and sending a second IP packet having a header and payload portion to a second node in the second *wireless* network.

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Since Rao does not disclose or hint at elements missing from the other cited references, it is respectfully submitted that the hypothetical combination of the references does not disclose or hint at all elements of the claim.

In view of the foregoing, it is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 4.

Independent claims 5, 18, and 25 were grouped with claim 4 in the rejection made in the Office Action. The rationale presented above regarding why no reason existed that would have prompted a person of ordinary skill in the art to combine the references also applies for these claims.

Moreover, with respect to claim 5, it is respectfully submitted that the hypothetical combination of the references fails to disclose or hint at the following combination of elements: receiving a first IP packet having a payload portion containing a private network address of a first GSN in the first wireless network, and the first IP packet further having a header containing the private network address of the first GSN; translating the private network address in each of the header and payload portion to a public network address; and sending a second IP packet having a header and payload portion to a second GSN in the second wireless network, where each of the header and payload portion of the second IP packet contains the public network address translated from the private network address.

With respect to independent claim 18, the hypothetical combination of the references fails to disclose or hint at a system having an interface to a first wireless network, the interface to receive a data packet containing a header portion and payload portion each containing a first network address of a GSN in the first wireless network; and a network address translator module to translate the first network address in each of the header portion and payload portion to a second, different network address associated with the GSN.

Also, it is respectfully submitted that the hypothetical combination of the references fails to disclose or hint at all elements of claim 25, namely performing translation of a private network address contained in each of a header and payload portion of a first IP packet to a public network address, the private and public network addresses associated with a GSN node in a first wireless network, and sending a second packet having a header and payload portion each containing the public network address to a second wireless address.

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Claims 3 and 10

Independent claims 3 and 10 were rejected as being obvious over Inoue and Rao. It is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to either claim 3 or claim 10 for at least the reason that no reason existed that would have prompted a person of ordinary skill to combine the teachings of Inoue and Rao. As explained above, the objective evidence of record establishes that a person of ordinary skill in the art would not have been prompted to combine the teachings of Inoue and Rao. Inoue describes conventional address translation in which the source and destination addresses in *only* a header portion of a packet are translated. Absolutely no mention is made in Inoue of any desirability to perform translation of an address contained in the payload portion of the data network within a wireless environment. There existed no hint in Rao or any other evidence of record that it would have been desirable to apply the teachings of Rao to modify the Inoue system.

The Office Action cited to the teaching in Rao that "some applications embed addressing information in their message payload data which is to be translated when the packet is crossing a boundary" as motivation to combine with Inoue to render obvious the subject matter of claims 3 and 10. However, the Office Action did not address the issue that there existed no teachings in Rao or Inoue that the translation of an address in a payload, as taught by Rao for a wired network environment, is to be applied to the mobile network environment as taught by Inoue. In fact, even though Inoue refers to a network address translation between mobile and private addresses in a mobile IP application, there existed no hint that the issue of embedded addresses in the payload portions of IP packets would even be an issue. Thus, the objective teachings of Inoue and Rao would indicate that the claimed subject matter is non-obvious over the cited references.

In view of the foregoing, a *prima facie* case of obviousness has not been established with respect to claims 3 and 10.

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Conclusion

In view of the foregoing, all claims are in condition for allowance, which action is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 20-1504 (NRT.0090US).

Respectfully submitted,

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